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## EARLY PORTRAYALS OF THE OPOSSUM

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THE quaint animal figures found in olden time works on natural history are interesting not only as bearing upon the contemporary state of zoological science and the art of book-making, but also because many of the illustrations belong to a regular sequence or lineage which can be traced back, like the textual descriptions, to primitive sources. To a certain extent this has already been done, or at least indicated, in the work by John Ashton, entitled "Curious Creatures of Zoology."

A subject deserving of the attention of naturalists but which appears to have been neglected, is an historical and systematic investigation of animal figures introduced in early American cartography. Thanks to the magnificent facsimile reproductions of sixteenth century maps which have been published during recent years in this country and abroad, abundant materials for this purpose are now easily accessible. As for the "relaciones" of early voyagers and travelers in the western world, very few of these have been published with scientific commentaries, and among the really important seventeenth century writers on Central and South American natural history, only the works of Hernandez (1628) and Marcgrav<sup>1</sup> (1648) have been systematically annotated. The first letter

<sup>1</sup> See the commentaries on these authors by Lichtenstein and Martius, 1827 and 1853, in the publications of the Berlin and Bavarian Academies of Science.

written from the newly discovered world, by Dr. Chanca, companion of Columbus, was not adequately edited and annotated until after four centuries had passed. Vespucci's letters also are deserving of mention in this connection.<sup>2</sup>

In view of the fact that several communications have appeared in *Nature* during the past year concerning the first mention of the opossum in literature, it may not be inopportune to trace the pedigree of some of the early illustrations of this animal, both in maps and in printed works. At the same time a few of the older printed descriptions of American marsupials may be noticed. And we will observe first of all that the earliest reference to the common American opossum is found in the famous collection of voyages published in 1504 by Angelo Trivigiano, under the caption of "Libretto de Tutta la Navigazione de Re de Spagna, de le Isole et Terreni Novamente Trovati." In Chapter XXX of that work it is mentioned that a live specimen, taken by the Pinzons in Brazil in 1500, was exhibited in Granada.

In Decas II of Peter Martyr's "De Nove Orbe," published in 1511, occurs the first published description of the American tapir; and immediately following this the opossum is referred to in these words:

There is also an animal which lives in the trees, feeds upon fruits, and carries its young in a pouch in the belly; no writer as far as I know has seen it, but I have already sufficiently described it in the Decade which has already reached Your Holiness before your elevation, as it was then stolen from me to be printed.

In 1547 and 1548, and again from 1549 to 1555, Hans Stade of Homburg, Hesse, passed some time in Brazil, and wrote or dictated an account of his strange adventures, which was published at Marburg in 1557. Under the caption of "Servoy," Chapter XXXII, we read:

<sup>2</sup> See Fernandez de Ybarra in *Journ. Amer. Med. Assoc.* for September, 1906, and in Misc. Coll. Smithson. Inst. for the same year. Vespucci's first letter (1497) was republished in facsimile by Varnhagen in 1893, having for frontispiece a design by Stradanus dating from about 1580, in which various South American animals are well represented. Mention occurs in this letter of the iguana, puma and ocelot from the coast of Tampico.

There is also a kind of game, called *servoy*, which is as large as a cat, and has a tail like a cat; its fur is gray, and sometimes grayish black. And when it breeds, it bears five or six young. It has a slit in the belly about half a span in length. Within the slit there is yet

### Die Fugnr Dattu. Cap. xxxi.



### Servoy. Cap. xxxii.



**E**s hat auch cyn art Wiltes/heyssee Servoy/ist so groß  
wie cyn katze/weißgraw vō haren/auch schwarz graw/  
hat cynen schwanz wie cyn katz. Dnnd wann es geberet/  
bars

FIG. 1. The "Dattu" (tatu or armadillo) and "Servoy" (opossum); after Hans Stade, 1557.

another skin; for its belly is not open, and within this slit are the teats. Wherever it goes, it carries its young in the pocket between the two skins. I have often helped to catch them and have taken the young ones from out of the slit.

In the original edition of the work just quoted woodcuts are given of both the opossum and armadillo (*Dasypus novemcinctus* Linn.) and these are reproduced in the present article (Fig. 1) from a copy belonging to the New York Public Library. The armadillo is thus described in Stade's "Wahrhaftig Historia":

There is another sort of animal found in this country which the savages call *dattu*; it stands about six inches high and is nine inches long; its body is covered all over, except underneath, with a kind of armor. This covering is horn-like, and the plates overlap one another like those of chain armor. This animal has a very long snout, and is usually found on rocks. It feeds on ants. Its flesh is sweet and I have often eaten of it.

Two works published at about the same time as the narrative of Stade also contain mention of the opossum, the name of "Simivulpa" or Fox-ape and "Su" being



FIG. 2. The "Simivulpa" (*Didelphis*); after Sebastian Münster, 1558.

applied to the creature. In the Italian edition (1558) of Sebastian Münster's "Cosmographia" occurs this passage, accompanied by an illustration which we have reproduced in Fig. 2:

Trovasi in quel luogo [Brazil] un animal prodigioso, le cui parti davanti si rassomigliano a volpe & quella di dietro à Simia mai suoi piedi sono como di huomo, ha le orecchi di civetta, & sotto le ventre como una borsa, nella quale tien nascosti suoi figliuoli, finche crescono di sorte che possino caminare sicuramente da lor stesi, & procurarsi il cibo senza tutela della madre, ne mai escono di quella borsa se non quando lattano. Quest' animale mostruosa con tre suoi figliuoli fu portato in Sibilía & indi in Granatá."—p. 1187.

Münster's illustration of the "Simivulpa" is evidently derived from figures of the opossum appearing in several editions of Ptolemy's "Geography" from 1522 onward,



Fig. 3. Earliest known figure of the opossum; from the Waldseemüller world-map of 1516.

and other early maps of South America, all traceable in the first instance to Waldseemüller's world-map of 1516, where the same representation occurs (Fig. 3). It is there accompanied by essentially the same legend as one finds in the "*Tabula Terre nove*" of the 1522 Ptolemy, and in later maps and atlases,<sup>3</sup> such as Cornelius de Jode's (1585), and van Linschoten's (1598).

<sup>3</sup> Modern reproductions of South American maps showing these figures may be seen in Winsor's "Narrative and Critical History of America," and in the magnificent collection published by the Brazilian government under the direction of Baron de Rio Branco. The representation of a Brazilian landscape in the Cantino map of 1500, shown in our Fig. 4, is from a photograph of HARRISSE's colored reproduction.

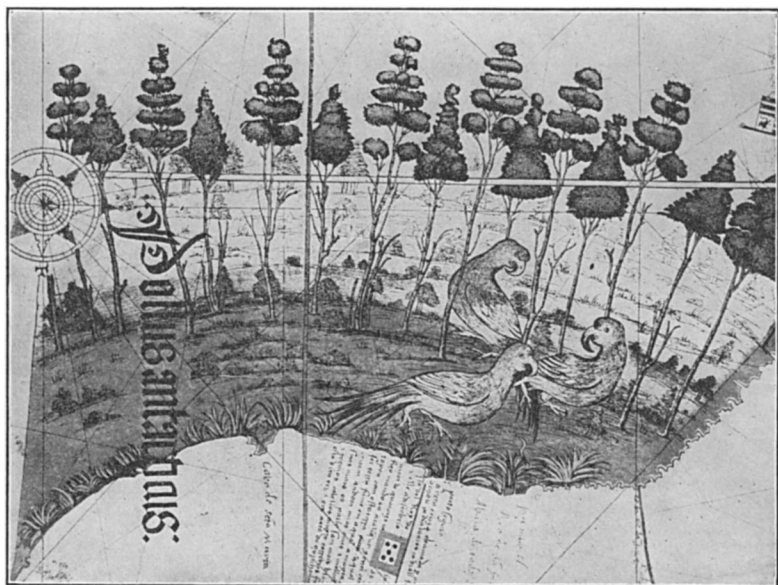


FIG. 4. One of the earliest representations of an American landscape; from the Cantino map of 1500.

André Thevet, who sojourned for a short time in Brazil, published his "*Singularitez de la France Antarctique*" in 1558. His description of the "Su," in reality the opossum, is paraphrased by Conrad Gesner, Edward Topsell, J. E. Nieremberg and John Jonston under that caption, and his grotesque caricature of the beast is reproduced by these authors. It is also introduced in sixteenth century cartography of the two Americas. Blaeu, in his world-map of 1605, places the "Su" and its descriptive legend in the region of Nova Francia;<sup>4</sup> and in the La Plata region of the same map occurs still another figure of the opossum, based upon the century-old drawing which appears in the Waldseemüller world-map. Our Fig. 5 is taken from Thevet, and Fig. 6 from Nieremberg, whose "*Historia Naturæ*" was published in 1635.

In Wolfe's English edition of van Linschoten's "*Voyages*," figures of the sloth and "*Simivulpa*" are intro-

<sup>4</sup> See the new facsimile edition (1914) published by Dr. E. L. Stevenson under the auspices of the Hispanic Society of America.

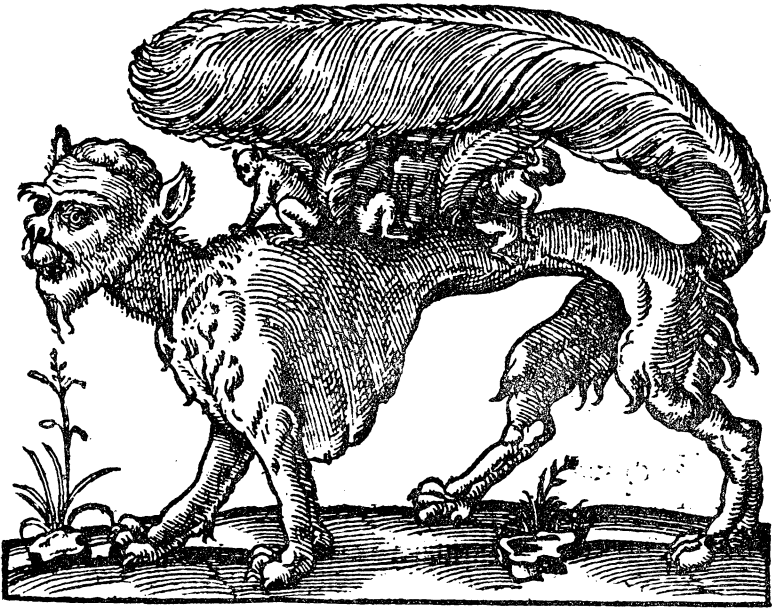


FIG. 5. The "Su" (common opossum) ; after André Thevet, 1555.



FIG. 6. The "Flaquatzin" (woolly opossum) ; from Topsell, after Nieremberg, 1635.

duced in the Brazilian and Argentine region of the map of the South American continent, and at page 232 of this work occurs the following description of one of these beasts :



There is likewise another wonderful and strange beast of Gesnerus called a Foxe ape, on the belly whereof Nature hath formed an other belly, wherein when it goeth into any place, it hideth her young ones, and so beareth them about with her. This beast hath a body and members like a foxe, feete like mens hands, or like sea cattes feete, eares like a batte. It is never seene that this beast letteth her young ones come forth but when they sucke, or ease themselves, but are always therein, until they can gette their own meate.

Passing now to the seventeenth century writers, we find this account of *Didelphis* in Raphe Hamor's "True Discourse of the Present Estate of Virginia" (London, 1615):

For true it is, that the Land is stored with plenty and variety of wild beastes, Lions, Bears, Deere of all sorts. . . . Beavers, Otters, Foxes, Racounes, almost as big as a Fox, as good meat as a lamb, Hares, wild Cats, Muske rats, Squirrels flying, and other of three or foure sorts, Apossumes, of the bignesse and likenesse of a Pigge, of a moneth ould, a beast of as strange as incredible nature; she hath commonly seauen young ones, sometimes more and sometimes lesse, which she taketh vp into her belly, and putteth forth againe without hurt to her selfe or them.

Of each of these beasts, the Lion excepted, my selfe have many times eaten, and can testifie that they are not only tastefull, but also wholesome and nourishing foode.

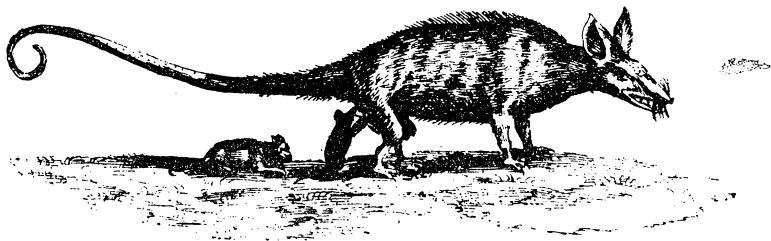


FIG. 7. The opossum and young; after César de Rochefort, 1658.

About the same time Captain John Smith wrote the following brief characterization of the opossum, in his "Description of Virginia" (1612):

An opossum hath a head like a Swine, and a taile like a Rat, and is of the bignesse of a Cat. Under her belly she hath a bag, wherein she lodgeth, carrieth, and suckleth her young.

After Nieremberg, a Jesuit professor at Madrid, whose work on natural history (1635) is chiefly a compilation, we come to George Marcgrav and Wilhelm Piso; and

their contributions on Brazilian natural history, published in 1648, are recognized as highly meritorious.

Ulysses Aldrovandi's large posthumous folio on Quadrupeds (1637, p. 103) also contains a figure of the opossum (otherwise interpreted, however) which is clearly traceable to the early cartographic designs. But it is unnecessary to pursue the subject further, except to state that Fig. 7 is copied after Charles César de Rochefort's engraving of an opossum ("Histoire des Îles Antilles," 1658), and Fig. 8 shows the same animal, according to Eduard Seler's interpretation, as depicted in one of the Maya Codices (Nuttall, 71).



FIG. 8. Maya representation of the opossum (?). From Eduard Seler, after Nuttall Codex, 71.

Among other mammalian figures in pre-Columbian Maya and Mexican colored drawings<sup>5</sup> that have been preserved are several that represent a spotted dog, probably one of the varieties of "Alcos" mentioned by Hernandez. The occurrence of an indigenous spotted dog in Central America is of interest in view of the fact that a similar race is depicted in ancient Egyptian, Assyrian and Pelasgian animal effigies and paintings, some of the figures dating as far back as about 3000 B.C.

The oldest known representations of the hunting dog of the ancient Egyptians, together with a number of large African mammals, are inscribed in a palette discovered a few years ago at Hierakonpolis.

<sup>5</sup> See Edward Seler, "Die Tierbilder der mexicanischen und Maya-Handschriften," *Zeitschr. f. Ethnol.*, Jhrg. 41, 1909. A. M. Tozzer and G. M. Allen, "Animal Figures in the Maya Codices," papers of Peabody Museum Arch. Ethnol., Vol. 4, No. 3, 1910. References to the literature on ancient Egyptian and Assyrian animal effigies will be found in *Amer. Journ. Philol.*, Vol. XXX, 1909, pp. 322-331. The early history of the rhinoceros is traced by B. Laufer in Publication 179 of the Field Museum, and medieval ideas of the elephant are portrayed by E. D. Cuming in a recent number of *Field* (April 3, 1915).

Concerning the several varieties of ancient Inca or Ancon dog that are known from well-preserved Peruvian mummies, Nehring<sup>6</sup> is of the opinion that their remote ancestry is traceable to the North American wolf (*Lupus occidentalis* var. *mexicanus* and *rufus*). The great antiquity of domesticated dogs in South America is indicated also by a canine skull which R. Lydekker has described from the superficial deposits of Buenos Aires. This dog, according to Dr. Lydekker,<sup>7</sup> "though apparently contemporaneous with many of the wonderful extinct mammals of the Pampas, yet shows unmistakable signs of affinity with domesticated breeds, although the precise relationship has not been established."

Reference having already been made to animal figures in early American cartography, we may call attention in closing this sketch to a memoir by Aníbal Cardoso in the *Anales* of the Buenos Aires Museum for 1912 (Vol. XV), on the origin of Argentine horses.<sup>8</sup> The writer endeavors to show from historical evidence that large numbers of horses existed in the interior of the country prior to the Spanish Conquest, and a figure of one of these animals drawn by Sebastian Cabot in his world-map of 1544 is interpreted as indicating that wild herds were seen by that navigator in 1531. A portion of Cabot's map is reproduced in Señor Cardoso's memoir (p. 379), and also in one by J. T. Medina on the voyage of Sebastian Cabot.

Nevertheless the conclusion appears unavoidable that, had the horse actually persisted in the western hemisphere down to the time of the advent of Europeans, some traces of it would certainly appear in the culture of the primitive inhabitants.

<sup>6</sup> *Sitzungsber. ges. Naturf. Freunde*, Berlin, 1884.

<sup>7</sup> R. Lydekker, "Mostly Mammals," London, 1903, p. 204.

<sup>8</sup> "Antigüedad del Caballo en el Plata." On the horse in post-conquistorial times in North America see Clark Wissler, "The Influence of the Horse in the Development of Plains Culture," in *Amer. Anthropol.*, Vol. XVI, 1914.